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38th Annual Meeting, APS Division of Plasma Physics
11-15 November 1996, Denver, CO

ABSTRACT SUBMITTAL FORM

Deadline: Wednesday, 10 July 1996

Subject Classification Category 4.7 ☐ Theory ☐ Experiment

***** Analysis of Reduced-Scale Nova Hohlraum Experiments, L.V. Powers, R.L. Berger, R.K. Kirkwood, W.L. Kruer, A.B. Langdon, B.J. MacGowan, T.J. Orzechowski, M.D. Rosen, P.T. Springer, C.H. Still, L.J. Suter, and E.A. Williams, LLNL, and M.A. Blain, CEL-V, Villeneuve-St-Georges, FRANCE, Establishing the practical limit on achievable radiation temperature in high-Z hohlraums is of interest both for ignition targets [1] for the National Ignition Facility (NIF), and for high energy density physics experiments [2]. Two related efforts are underway to define the physics issues of high energy density hohlraum targets: 1) experiments on the Nova laser in reduced scale hohlraums, and 2) evaluation of high-temperature hohlraums designs for the NIF. Reduced scale Nova hohlraums approach conditions relevant to NIF high temperature designs, albeit at smaller scale. Analysis of reduced-scale experiments on Nova therefore provides valuable physics information for evaluating the capabilities of NIF for producing high energy density in hohlraums. Simulations of Nova reduced scale hohlraum experiments will be presented, and the relevance to a range of NIF hohlraum target designs will be discussed.

1. S.M. Haan, et al., Phys. Plasmas 2, 2480 (1995).
2. .S.B. Libby, Energy and Technology Review, UCRL-52000-94-12, 23 (1994)

*Work performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory under Contract W-7405-ENG-48.

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Please place next to Ted Orzechowski's Poster entitled "Energetics of High-Temperature Laser-Driven Hohlraums"

Submitted by:

_____
Signature of APS Member
Linda Powers

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